

IN THE CLAIMS:

Please amend claims 1, 16, 44, 48, 61, 70 and 75 and cancel claims 2, 13, 17, 18, 47, 49, 50, 60, 62, 63, 68, 69, 74, 76, 77 and 83-88 as follows.

This listing of claims will replace all prior versions, and listings of the claims in the application.

Listing of the claims

1. (Currently Amended). A nucleic acid molecule that comprises a coding sequence operably linked to regulatory elements, wherein said coding sequence that encodes a human CD80 mutant protein comprises at least one of 80V, 80tm and 80ct and is free of all or part of the CD80 C region;

wherein said CD80 mutant that is free of all or part of the CD80 C region comprises either 80V or 86ct or both and optionally comprises one or more of 86C, 80tm, 86tm, 80ct and 86ct wherein:

80V is the variable domain of human CD80; ~~or a fragment thereof;~~

86V is the variable domain of a human CD86; ~~or a fragment thereof;~~

86C is the C domain of human CD86; ~~or a fragment thereof;~~

80tm is the transmembrane region of human CD80; ~~or a fragment thereof;~~

86tm is the transmembrane region of a human CD86; ~~or a fragment thereof;~~

80ct is the cytoplasmic tail of human CD80; ~~or a fragment thereof;~~ and

86ct is the cytoplasmic tail of human CD86; ~~or a fragment thereof;~~ wherein said human CD80 mutant protein possesses costimulatory activity of wild type CD80 and does not provide the negative signal associated with wild type human CD80 C region interactions with human CTLA4.

2-9. (Canceled)

10. (Previously presented). A plasmid comprising a nucleic molecule according to claim 1.
11. (Previously presented). A plasmid according to claim 10 further comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.
12. (Previously presented). A composition comprising a plasmid according to claim 10 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.
- 13-15. (Canceled).
16. (Withdrawn – Currently amended). A method of inducing an immune response in methods immunizing an individual against an immunogen comprising administering a composition comprising nucleic acid molecules according to claim 1.
- 17-18. (Canceled).
19. (Withdrawn). The method of claim 16 wherein said immunogen is an allergen.
20. (Withdrawn). The method of claim 16 wherein said immunogen is a pathogen antigen.
21. (Withdrawn). The method of claim 16 wherein said immunogen is an antigen associated with an autoimmune disease.
22. (Withdrawn). The method of claim 16 wherein said immunogen is an antigen associated with a hyperproliferative disease.

23-40. (Canceled).

41. (Previously presented). A composition comprising a plasmid according to claim 11 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

42. (Previously presented). The nucleic acid molecule according to claim 1 wherein said protein comprises part of human CD80 C region.

43. (Previously presented). A plasmid comprising a nucleic acid molecule according to claim 42.

44. (Currently Amended). A plasmid according to claim ~~41~~ 43 further comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

45. (Previously presented). A composition comprising a plasmid according to claim 44 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

46. (Previously presented). A composition comprising a plasmid according to claim 43 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

47. (Canceled).

48. (Withdrawn – Currently Amended). ~~The methods immunizing~~ A method of inducing an immune response in an individual against an immunogen comprising administering a composition comprising nucleic acid molecules according to claim 42.

49-50. (Canceled).

51. (Withdrawn). The method of claim 48 wherein said immunogen is an allergen.

52. (Withdrawn). The method of claim 48 wherein said immunogen is a pathogen antigen.

53. (Withdrawn). The method of claim 48 wherein said immunogen is an antigen associated with an autoimmune disease.

54. (Withdrawn). The method of claim 48 wherein said immunogen is an antigen associated with a hyperproliferative disease.

55. (Previously presented). The nucleic acid molecule according to claim 1 that comprises a coding sequence operably linked to regulatory elements, wherein said coding sequence encodes a human CD80 mutant protein that comprises a human CD80 V region, a functional human CD80 tm and a human CD80 ct region, and is free of a functional C region by the absence of all or part of the a human CD80 C region.

56. (Previously presented). A plasmid comprising a nucleic molecule according to claim 55

57. (Previously presented). A plasmid according to claim 56 further comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

58. (Previously presented). A composition comprising a plasmid according to claim 57 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

59. (Previously presented). A composition comprising a plasmid according to claim 56 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

60. (Canceled).

61. (Withdrawn – Currently Amended). A method of inducing an immune response in methods immunizing an individual against an immunogen comprising administering a composition comprising nucleic acid molecules according to claim 55.

62-63. (Canceled).

64. (Withdrawn). The method of claim 61 wherein said immunogen is an allergen.

65. (Withdrawn). The method of claim 61 wherein said immunogen is a pathogen antigen.

66. (Withdrawn). The method of claim 61 wherein said immunogen is an antigen associated with an autoimmune disease.

67. (Withdrawn). The method of claim 61 wherein said immunogen is an antigen associated with a hyperproliferative disease.

68-69. (Canceled)

70. (Currently Amended). A plasmid comprising a nucleic molecule according to claim ~~68~~ 82.

71. (Previously presented). A plasmid of claim 70 further comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

72. (Previously presented). A composition comprising a plasmid according to claim 71 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

73. (Previously presented). A composition comprising a plasmid according to claim 70 further comprising an immunogenic protein or a plasmid comprising a nucleic acid sequence comprising a coding sequence encoding an immunogen, said coding sequence operably linked to regulatory elements.

74. (Canceled).

75. (Withdrawn – Currently Amended). A method of inducing an immune response in methods immunizing an individual against an immunogen comprising administering a composition comprising nucleic acid molecules according to claim ~~68~~ 82.

76-77. (Canceled).

78. (Withdrawn). The method of claim 75 wherein said immunogen is an allergen.

79. (Withdrawn). The method of claim 75 wherein said immunogen is a pathogen antigen.

80. (Withdrawn). The method of claim 75 wherein said immunogen is an antigen associated with an autoimmune disease.

81. (Withdrawn). The method of claim 75 wherein said immunogen is an antigen associated with a hyperproliferative disease.

82. (Previously presented). The nucleic acid according to claim 55 wherein said coding sequence encodes part of the CD80 C region.

83-88. (Canceled)